

or three, but we found a significant difference between the nests containing two fledglings and those with 0, 1 or 3 ( $\chi^2 = 109.37$ , g.l. = 3,  $P < 0.01$ ). The diet of Crested Caracaras in the breeding season indicates a tendency both to have a broad diet breadth and to be an opportunistic species. Although the productivity of the species in the Cape Region was high ( $1.93 \pm 0.85$  young/attempt,  $N = 16$ ), we believe the species will be threatened if human disturbance, deforestation, hunting and habitat loss are not stopped. We are concerned because "Los Cabos" are now suffering from the "tourism effect" and the increasing agricultural activities.

#### PAIRED USE OF SATELLITE AND VHF TELEMETRY ON REHABILITATED BALD EAGLES

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Two rehabilitated Northern Bald Eagles (*Haliaeetus leucocephalus alascanus*) fitted with backpack-mounted satellite tracking transmitters (PTTs) and tail-mounted VHF ground-tracking transmitters were released into the Skagit River Bald Eagle Natural Area (SRBENA) by the Woodland Park Zoo in Seattle. A juvenile female (90 hatch) was released in January 1991 and a sub-adult female (89 hatch) was released in January 1992. The paired use of satellite and VHF telemetry was tested to see if birds that left the vicinity of the release site could be relocated using the latest satellite location data as a starting point to begin a ground search using standard VHF telemetry. The juvenile female was tracked by satellite for six months prior to transmitter failure. The subadult female is currently being tracked by satellite eight months after release. Failure of the tail-mounted VHF transmitters after approximately four months each has prevented continued ground tracking of these birds. It was found that the paired use of satellite and VHF telemetry allowed longer term tracking and monitoring of individual rehabilitated eagles than was possible with VHF telemetry alone.

#### IDENTIFICATION OF INDIVIDUAL OSPREYS BY USE OF PLUMAGE PATTERNS

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Individual ospreys often are difficult to distinguish in the field, particularly when unbanded or incubating deep in a nest. By observation of over 350 osprey including all four subspecies, I have developed a method of distinguishing individuals by head and upper body plumage patterns. During the 12-year study, comparisons were made in both the field and museums. The variations in patterns also make it possible to determine the identity of individuals in subsequent years. Long-lens photography and sketches were used to document plumage patterns which have proven unique and consistent. This method has been of great

assistance during reintroduction programs in Pennsylvania and is recommended for field use.

#### CRITERIA FOR DETERMINING AGE AND SEX OF NESTLING OSPREY

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During the period 1984-87, the development of 63 nestling osprey, 33 males and 30 females, was monitored in 39 broods in North America. Eleven variables were measured on birds of known age and sex every other day until fledging. Using a combination of plumage and weight variables, which are easily measured and highly dimorphic, a method is presented to quantify age and sex-determining criteria suitable for use in field situations.

#### FACTORS INFLUENCING THE DISTRIBUTION OF PEREGRINE FALCONS (*FALCO PEREGRINUS*) IN THE AUSTRIAN ALPS

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From studies of some species of birds of prey, we know that the availability of suitable nest sites and food supply are the main factors influencing their breeding distribution. For the Peregrine Falcon, some authors claim that there is some evidence for this relation but, until now, no quantified data has been available. A two-year survey of Peregrines in Salzburg county (Austria) showed that the distribution of this species is very irregular. The present study aims to shed more light on the situation by elucidating which factors determine the distribution of the peregrine and whether the species has a preference for specific types of habitat or for a particular range of altitudes. Between the two subareas (Calcareous and Central Alps) differences in the distribution of breeding pairs were found. Nesting sites in the Calcareous Alps are spaced regularly, while those sites in the Central Alps are spaced in a more random fashion. However, for both subareas there is a clear negative correlation between both elevation and prey density (individuals and biomass) and the "nearest neighbor distance" between breeding pairs. There was no significant preference for a specific habitat type. It seems that there are different factors influencing breeding distribution of peregrines in different parts of Salzburg county. In the Calcareous Alps, prey abundance is limiting breeding density whereas in the Central Alps, suitable cliffs are in short supply. This study quantifies the importance of different factors for population regulation of Peregrine Falcons and makes it possible to include these parameters in future management programs.

#### RAPTOR ABUNDANCE IN SOUTHCENTRAL KENYA IN RELATION TO LAND-USE PATTERNS

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